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1989

Threatened, Endangered and Sensitive Plant Program

Summary of FY-89 Accomplishments

USDA-Forest Service--Pacific Southwest Region (R-5)

USDA-FOREST SERVICE--PACIFIC SOUTHWEST REGION (R-5)
THREATENED, ENDANGERED AND SENSITIVE PLANT PROGRAM
SUMMARY OF FY-89 ACCOMPLISHMENTS

The Region 5 FY-89 budget direction to the Forests stated:

> **"Within those funds allocated for threatened, endangered, and sensitive species, strive to increase emphasis on sensitive plant management. Each Forest shall develop at least one interim or final sensitive plant management guide. All Forests shall provide a threatened, endangered, and sensitive plant report by September 1, 1989 documenting accomplishments and out-year program needs. Plant activities include surveys, monitoring, updating sensitive plant lists, and funding FTE's (full-time equivalents) dedicated to the program including the hiring of seasonal botanists where appropriate. Implement cooperative and KV (Knutson-Vandenberg Act) habitat improvement projects for threatened, endangered, and sensitive plants. All Forests are encouraged to do at least one cost-sharing project for sensitive plants".**

During FY-89, Region 5 of the Forest Service (California) has made significant gains in meeting Congressional intent in strengthening the sensitive plant program. Highlights of FY 89 accomplishments include:

--Hired 7 new full-time botanists in the Region.

--Increased program visability with a 23 % increase in funding over FY 88 to do sensitive plant work.

--Entered into a Participating Agreement with The Regents of the University of California to assist in the development and eventual publication of The Jepson Manual: Vascular Plants of California.

--Rediscovered a presumed extirpated orchid (Malaxis brachypoda) in California (last seen in 1947) on the San Bernardino NF.

--Located the federally endangered plant Dodecahema leptoceras (Centrostegia) on the Cleveland NF, greatly increasing the number of populations known which will aid in the species recovery efforts.

A combination of funding sources from cooperators, other resource functions, and appropriated dollars for the threatened, endangered, and sensitive plant management comprise the R-5 program. During FY 89, the total threatened, endangered, and sensitive plant program was $ 515,305.

Survey work on the National Forests yielded 340 new occurrences involving 69 of the 285 sensitive plants identified on the R-5 list. All field survey forms are provided to the California Natural Diversity Data Base as outlined in our Memorandum Of Understanding with the Department of Fish & Game.

National FS Library
USDA Forest Service

JUL 18 2012

240 W Prospect Rd
Fort Collins CO 80526

Region 5 currently has 5 plant species federally listed under the Endangered Species Act of 1973 (as amended). In addition, 19 state endangered and one threatened species are listed under the California Endangered Species Act of 1984, and 28 species are listed as rare under the authority of the California Native Plant Protection Act.

A Sensitive plant workshop was conducted during February 28-March 2, 1989 to strengthen the program and provide for an integrated system between Forests and other federal and state land agencies. Workshop participants also included botanists and resource specialists from several Forest Service Regions, the Bureau of Land Management, California Department of Fish & Game, The California Native Plant Society, The Nature Conservancy, and a private nursery firm.

REGION 5 BOTANICAL PERSONNEL FOR THREATENED, ENDANGERED, AND SENSITIVE PLANT TAXA

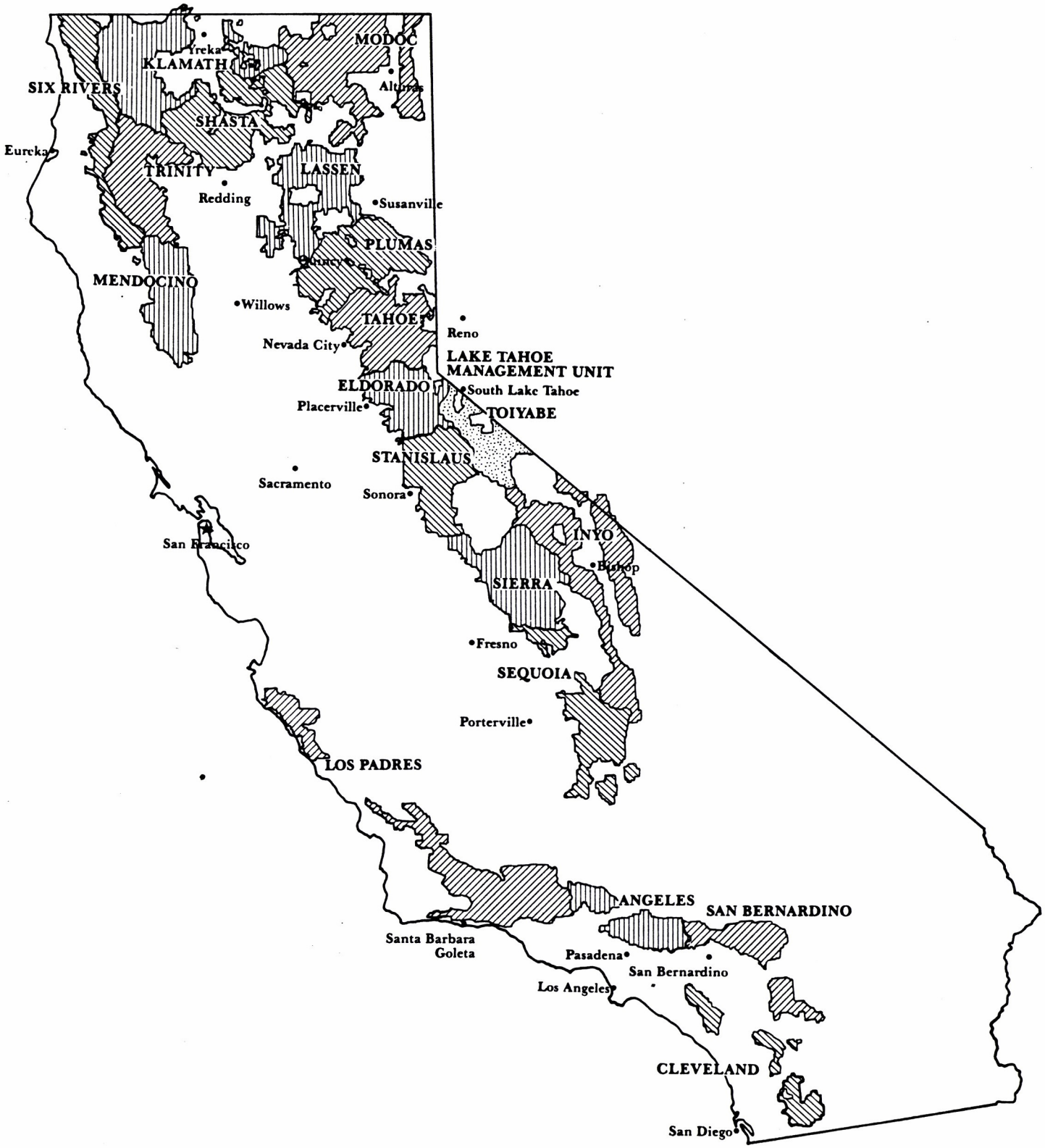
REGIONAL OFFICE, SAN FRANCISCO

JAMES R. SHEVOCK, Regional Botanist FTS-465-2691; 415-705-2691

FOREST SENSITIVE PLANT COORDINATORS (KEY CONTACTS)

Each National Forest in the Region has one person who is directly responsible for the Sensitive Plant Program. This position is referred as the Sensitive Plant Coordinator. This person may be a botanist, ecologist, biologist, range conservationist, or the Resource Staff Officer. Listed below are the coordinators (C) and botanists (B) in Region 5.

NAME	FOREST	PHONE
BILL BROWN (C)	ANGELES NF	818-574-5278; FTS-799-0258
TOM WHITE (C)	CLEVELAND NF	619-743-4453
LISA CROFT (B)		619-743-4453
ZOE TYLER (C)	ELDORADO NF	916-622-5061
JOAN REYNOLDS (B)		916-622-5061
JUDY TARTAGLIA (C)	INYO NF	619-873-5841
BRIAN MILLER (B)		619-873-6841
BARBARA WILLIAMS (C & B)	KLAMATH NF	916-842-6131
JULIE KNORR (B)		916-842-6131
MARLA KNIGHT (B)		916-467-5757
BETH CORBIN (C & B)	LASSEN NF	916-257-2151
MARK BORCHERT (C)	LOS PADRES NF	805-683-6711; FTS-960-7526
DICK ENGLISH (C)	MENDOCINO NF	916-934-3316
SYDNEY SMITH (C)	MODOC NF	916-233-5811
LINNEA HANSON (C & B)	PLUMAS NF	916-534-6500
MELODY LARDNER (C & B)	SAN BERNARDINO NF	714-383-5588; FTS-793-5588
MAILE NEEL (B)		714-866-3437
PAM BROWN (C)	SEQUOIA NF	209-784-1500
JULIE KIERSTEAD (C & B)	SHASTA-TRINITY NF	916-628-5227
JOHN LORENZANA (C)	SIERRA NF	209-487-5155; FTS-467-5155
TOM JIMERSON (C & B)	SIX RIVERS NF	707-442-1721
JO ANN FITES (B)		707-442-1721
TOM BECK (C)	STANISLAUS NF	209-532-3671
DON BEHRENS (C)	TAHOE NF	916-265-4531
KATHY VAN ZUUK (B)		916-265-4531
HELEN SODERBERG (C)	LAKE TAHOE BASIN	916-573-2600


MODOC
Alturas
KLAMATH
Yreka
SIX RIVERS
SHASTA
Eureka
TRINITY
LASSEN
Redding
Susanville
PLUMAS
Quincy
MENDOCINO
Willows
TAHOE
Reno
Nevada City
LAKE TAHOE
MANAGEMENT UNIT
ELDORADO
South Lake Tahoe
Placerville
TOIYABE
STANISLAUS
Sacramento
Sonora
INYO
San Francisco
Bishop
SIERRA
Fresno
SEQUOIA
Porterville
LOS PADRES
ANGELES
SAN BERNARDINO
Santa Barbara
Goleta
Pasadena
San Bernardino
Los Angeles
CLEVELAND
San Diego

ANGELES NF***

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

No cost/share sensitive plant projects were funded in FY-89.

6. $$ spent on TES plant program during FY 89 by various funding sources

Approximately $30,000.00 was spent on the TES plant program during FY-89. This included $10,000 for program administration and $20,000 for work accomplished through Rancho Santa Ana.

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89

One new occurrence was reported in FY-89. This was for Opuntia basilaris var. brachypoda.

8. Other Activities

Seed collections were made by the Garden from M. nevinii and C. lanceolata for propagation purposes. Efforts will be made to propagate these species in 1990.

M. nevinii and C. lanceolata were also tested for genetic variability. Preliminary results have indicated that M. nevinii has little genetic variability among those populations tested, whereas C. lanceolata displayed much genetic variability among those populations tested. The results of genetic variability testing will be presented in a separate report later this year.

CLEVELAND NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

A full time Forest Botanist was hired and began work on Sept. 11, 1989. A seasonal bio-tech position was filled in the spring. We contracted three project surveys to Rancho Santa Ana Botanic Gardens.

2. Did you use volunteers to do plant work in FY 89?

No volunteers were used this past year.

3. Amount and/or types of projects/acres surveyed for sensitive plants

PROJECT TYPE	ACRES SURVEYED
TSI	620
SPECIAL USE PERMITS	9
PRESCRIBED BURNS	1400
FISH AND WILDLIFE HABITAT IMPROVEMENT	6
T & E HABITAT IMPROVEMENT	2
TRAIL CONSTRUCTION	72
CAMPGROUND CONSTRUCTION	50

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

None were completed.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

No.

6. $$ spent on TES plant program during FY 89 by various funding sources

SOURCE	AMOUNT
NFWL	$17,000.
RTR7	$ 5,000.
TOTAL	$22,000.

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89

PLANT SPECIES	# NEW SITES
Dodecahema leptoceras	3
Calamagrostis densa	7
Grindelia hallii	6
Thermopsis macrophylla var. semota	4
Machaeranthera asteroides var. lagunensis	1

8. Other Activities:

A field trip was held for members of the California Native Plant Society to see the Cuyamaca cypress. Twenty members of the San Diego Chapter attended the trip led by Maribeth Gustafson (former Cleveland NF botanist).

During two fires, the Thing Fire in the Descanso District and the Ortega Fire in Trabuco, there was sufficient documentation on the location of sensitve plant communities that they were able to be located, flagged and protected during the suppression activities. The documentation was due to the recent field work in these areas.

Worked with the ANF on Forest Plan appeal resolution related to effects of the South Zone prescribed fire program on sensitive plants.

Completed computer data base of sensitve plant locations on the Forest.

A habitat improvement project was implemented for the Cuyamaca Meadowfoam, Limnanthes gracilis var. parishii, in the Palomar District, Mendenhall Valley.

ELDORADO NF **********

1. **Did you hire a botanist or seasonal(s) in FY 89?**

   Yes - Forest Botanist GS-5/7/9 - Joan Reynolds, and one Seasonal Bio Tech GS-5 - Wendie Duron.

2. **Did you use volunteers to do plant work in FY 89?**

   No, other than Forest Service seasonals out there looking for us.

3. **Amount and/or types of projects/acres surveyed for sensitive plants**

   10 timber sales, 25 miles of trails, 1 WL burn, 600 acres for herbicide treatments, 1 botanical area, 2 acres proposed const. site, 1 mining claim, and 1 ski area,

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

   We are in the process of writing an interim guide for Calochortus clavatus var.avius.

5. **Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)**

   Yes. We entered a cost share agreement with The Nature Conservancy for a distribution and range survey for Calochortus clavatus var. avius. The final report from the project has not yet been received by the ENF, but a prelimnary meeting in August revealed the content of the work completed by Oren Pollack, and it was extremely professional and informative. The information compiled in the survey will help in the writing of a interim species mng. guide for CACLA.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

   $1,000.00 given to the TES plant program from the District Rangers on each of the four Districts of the Forest. The money paid for the total costs of producing a colored sensitive plant brochure and trading cards for field personnel. We spent $4,000.00 on a cost share ageement w/ The Nature Conservancy for a distribution and range survey for Calochortus clavatus var. avius. About $24,000 was spent on TES plant program, not including per diem or FOR/mileage. Total $$ for program -$29,000.00.

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89.**

   Calochortus clavatus var. avius - 18 new occurences.
   Silene invisa - 5 new occurences.
   Phacelia stebbinsii - 1 new occurence.

8. Other Activities:

Joan worked as the Cost Share coordinator for wildlife and recreation for the Forest and initiated two recreational and wildlife projects including handicap trails, fishing cantalevers, and interpretation of flora, fauna, and cultural resources. She was responsible for recruiting volunteers and partners, organizing and facilitating meetings and volunteers, and writing proposals for the projects.

Presentations were given at each District for the sensitive plant program and were very successful in drawing more awareness to the plant program and gaining more eyes for our sensitive species.

A sensitive plant color brochure and accompanying trading cards were published for all field going personnel to assist them and the plant program in locating sensitive species in project areas.

We have collected forest plant species throughout the season to get started on a Forest herbarium that will be compiled this winter.

We established 4 monitoring plots for Silene invisa, and 2 for Calochortus clavatus var. avius. The monitoring includes testing the impacts of timber sales, ski areas, and wildlife burns.

We are actively involved in management decisions for the Mokelumne Wilderness Botanical Area, inventorying plant species, formulating brochures for the flora for public awareness and education, and lichen identification and collection for the air quality program. We are planning an interpretive trail in the Traverse Creek botanical area in cooperation with a local equestrian group to help protect our state listed species, Senecio layneae, and to improve the area to attract year round use.

INYO NF**********

1. **Did you hire a botanist or seasonal(s) in FY 89?**

The Forest hired two seasonal botanists in FY89. One assisted in the R-5 Ecology riparian classification program, the other concentrating on Abronia alpina work and other plant surveys. The Forest also hired two biological technicians (13/13 tour), one of which has a strong botany background. We contracted with four other professional botanists to assist in surveys/inventories/ project support and to provide on-Forest training.

2. **Did you use volunteers to do plant work in FY 89?**

No

3. **Amount and/or types of projects/acres surveyed for sensitive plants**

Improvements and Protection: Existing livestock exclosures were maintained (3) with another constructed to protect subpopulations of A. alpina. Livestock shade trees were removed and trails re-routed out of sensitive plant populations to enhance their protection (app. 3 acres improved/protected).

Surveys/Studies/Assessments: Approximately 1,890 acres were inventoried for sensitive plant occurrence in FY89. This includes 300 acres surveyed in project areas to determine occurrence and mgmt. needs, and 1,690 acres to complete plant population mapping for 6 species.

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

A species guide for Abronia alpina is anticipated to be completed by October 4, 1989. This species is currently under consideration for listing as Endangered by the State of California.

5. **Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)**

No.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

$19,400	NFWF CT1
$ 5,000	RMTR CT1

$24,400	

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

Oxytropis deflexa var. serica	one new occurrence
Haekelia brevicula	two new occurrences
Horkelia hispidula	two new occurrences

8. Other Activities:

The Forest increased program visibility outside the agency by giving presentations to local chapters of the Nevada Native Plant Society and the California Native Plant Society. In addition, day to day contact has generated interest in future cost share projects with Native Plant Societies (CNPS,NNPS), State (NDDB/NHP), and local professional botanists for aiding in monitoring efforts to implement the Forest Plan, surveys, and technical assessments.

To highlight the program within the agency, a Forest-wide Sensitive Plant plan designed to provide guidance in Forest plan implementation, plant program priorities, and monitoring is near completion.

The three year draft sensitive plant action plan developed last year was refined and expanded into a five year action plan. Substantial efforts were made to determine future habitat protection needs. To improve inventory and assessment work, an atlas detailing sensitive plant occurrence and (eventually) potential habitat was initiated.

To develop and maintain a trained workforce, the Forest hired a 13/13 Biological technician with a strong background in Botany, and sent participants to major workshops, symposia, and planning & coordination meetings regarding Sensitive plant management. We conducted a workforce assessment for the Sensitive plant program, which indicates a lack of professional staffing is limiting program implementation and not allowing attainment of all management needs. Efforts are underway to resolve this situation.

In addition, the botany program financed two on-Forest training sessions, one geared to plant identification, the other for technical training in Sensitive plant management.

KLAMATH NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

1 Botanist, 430-GS-5, Happy Camp/Ukonom RDs, 10 pay periods
1 Biological technician, 404-GS-5, Salmon River/Scott River RDs, 9 1/2 pp

2. Did you use volunteers to do plant work in FY 89?

60 hours; Volunteer (has degree in Biology) assisted Assistant Forest Botanist in the collection and recording of riparian habitat plot data for a comprehensive riparian inventory of a major drainage (Beaver Creek, Oak Knoll RD). He collected, pressed, and identified plants; recorded vegetation composition and cover percents; and analyzed plot data to develop riparian habitat type descriptions.

3. Amount and/or types of projects/acres surveyed for sensitive plants

9 green timber sales (EAs) covering 11 compartments
3 green timber sales (EISs) in roadless areas covering parts of 7 compts.
4 fire salvage sales (EAs) covering 3 compartments
3 proposed campground developments
1 inventory of seismic testing sites
1 vegetation assessment of deer winter range transects
30+ miles of riparian streamside habitat as part of Beaver Creek project

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

Silene marmorensis Interim Species Management Guide drafted by Marla Knight, Salmon River/Scott River zone botanist.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

CELP funds ($500) supplemented botany program funding and manpower to have a large routed, wooden sign constructed to describe the botanical values of a (proposed) Botanical Area on Goosenest RD, and in particular point out a several acre fenced exclosure protecting a population of Calochortus greenei. (The project was initiated prior to this fiscal year with a CELP cost share project which constructed the fence).

CELP funds ($500) supplemented Forest funding to provide habitat improvement (riparian vegetation reestablishment in an area burned in 1987) for a population of Trillium ovatum ssp. oettingeri.

6. $$ spent on TES plant program during FY 89 by various funding sources

$83,878 (plus $20,000 moving expenses paid by Forest for B.Williams' move)

SO	$ 1,000	CELP
	$ 900	KV
	$26,000	CT1
	$12,418	ET113
	$ 5,000	CT222
	$ 5,000	timber receipt
	$ 691	range
	$ 2,369	District riparian inventory
	$53,378	
RDs	$10,000	ET113/CT1
	$20,500	timber
	$30,500	
TOTAL	$83,878	

7. Name of sensitive plants and number of new occurrences discovered in FY 89

Calochortus greenei	1
Eriogonum hirtellum	1
Epilobium siskiyouense	1
Lewisia cotyledon howellii	7
Sedum laxum flavidum	8
Silene marmorensis	4
Trillium ovatum oettingeri	11

Species Managed under Forest Species Management Guide

Lilium volmeri	1
Lilium wigginsii	18

8. Other Activities:

*Assistant Forest Botanist worked with District Range/Watershed/Fisheries staff to complete a multi-resource inventory of riparian areas along main stem and all perennial tributaries of Beaver Creek on Oak Knoll RD. Julie collected vegetation data and developed riparian veg type descriptions for the project area to be used in all future planning in the watershed. Project may result in additional funding in the future.

*Forest Botanist is a member of the Forest ID Team for the KNF Land Management Planning process. Includes responsibility for coordinating information and writing sections on Sensitive plants, Research Natural Areas, National Natural Landmark nomination, Special Interest Areas including Botanical Areas, and Biological Diversity. I am a member of the multiple use/biodiverstiy alternative development committee and chair of the biodiversity/corridors IDT working group.

*Botany program has taken on responsibility for establishing air quality lichen monitoring plots on the Forest in the Marble Mountain Wilderness. Received 5 days training in local lichen indentification and monitoring techniques from Regional contracted lichenologist. Project may result in funding in the future.

*Attended two interagency working sessions on biodiversity, one in Yreka and one in Placerville. Information gained to use in Forest Planning.

*Forest botanists and one temporary botanist attended NEPA training sessions to be able to provide better input to project planning.

*Forest co-chaired the organization of Regional monitoring workshop held on the Plumas NF.

*Assistant Forest Botanist was asked by The Nature Conservancy to participate in their annual spring rare plant monitoring on Santa Cruz Island, and gained additional valuable monitoring skills while working on that project.

*Arranged field trips to visit Sensitive plant populations of mutual concern with botanists from BLM, Cal Trans, Siskiyou County, The Nature Conservancy.

*Led a local interagency field trip to a proposed Botanical Area.

*Led two CNPS trips to two other proposed Botanical Areas.

*Forest and Zone botanist gave talks/led field trips for local Garden Club, Cub Scouts, and CNPS groups.

*KNF botany and cultural resources departments jointly gave a spring "Mints and Mustards" workshop through CNPS, providing information on identification and cultural uses of local species of these families.

*Worked with The Nature Conservancy Land Owner Contact Program to meet local land owners who own populations of area-endemic Sensitive species to discuss protection and management of the plants.

*Attended R6 Sensitive Plant Workshop.

*Assisted local newspaper journalist with information for a story about RNAs on the KNF. Arranged a field visit for him with the UCLA grad student conducting research this summer on subalpine fir within the proposed Sugar Basin RNA.

*Assistant Forest Botanist worked with Oak Knoll range conservationist on range transects.

*Attended Siskiyou County Dept of Agriculture noxious weed identification session to be able to assist the County with siting information for their weed control program.

*Provided a text describing the botanical values and interest of the Marble Mountain and Russian Wilderness areas, and color slides of plants found there, for a new Forest wilderness map.

*Have pursued the location and indentification of populations of a mutant form of tan oak (Lithocarpus densiflorus forma attenuato-dentatus) previously known only from a few locations in the Sierra Nevada in the 1960s. Working with Forest field people and researchers at PSW in Redding and the Insitute of Forest Genetics in Placerville.

*Put in proposals for cooperative State funding for three projects involving meadow rehabilitation and Sensitive plant habitat enhancement.

LASSEN NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

A permanent, full time botanist (Beth Corbin GS-430-9) was hired in February, 1989. No seasonals for plant work were hired.

2. Did you use volunteers to do plant work in FY 89?

One volunteer, Pam Vazquez, assisted with monitoring Orcuttia tenuis populations.

3. Amount and/or types of projects/acres surveyed for sensitive plants

Ten large timber sales, four land exchanges of over 3600 acres, one trail relocation, and one rock pit development were surveyed for sensitive plants in FY 89.

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

A draft species management guide for Orcuttia tenuis was developed in conjunction with Gary Schoolcraft of the BLM. The final species management guide should be out shortly.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

One CELP project (vernal pool fencing for Orcuttia tenuis and Eryngium mathiasiae) was applied for and approved. The actual fencing has not been done yet.

6. $$ spent on TES plant program during FY 89 by various funding sources

Approximate expenditures:
$5,000 from excess timber receipts for salary.
$8,320 from range and wildlife funding for salary.
$1,000 travel for training.
$2,400 travel for move.
$16,720

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89

Arabis constancei (new species to forest)	1
Eryngium mathiasiae (new species to forest)	4 (plus 3 on private land within the FS)
Gratiola heterosepala (new species to forest)	2
Lupinus dalesiae (new species to forest)	15
Mimulus pygmaeus	1
Orcuttia tenuis	1
Scheuchzeria palustris var. americana	1 (1 other discovered late FY 88 that wasn't on last year's report)
Sedum albomarginatum (new to forest)	2
Senecio eurycephalus var. lewisrosei	1 "

8. Other Activities:

Populations of six previously known sensitive plant species were monitored. An interim field guide for sensitive plant identification was developed.

LAKE TAHOE BASIN MANAGMENT UNIT********

1. Did you hire a botanist or seasonal(s) in FY 89?

Our Biologist CO-OP student (Julie Perrochet) worked 10 weeks in Sensitive Plant management.

2. Did you use volunteers to do plant work in FY 89?

Yes, we worked with the Tahoe Rim Trail volunteers to set up protection measures for the Tahoe Draba, Draba asterophora var. asterphora, at Freel Peak. Also, Robert Price from the UC Berkeley herbarium surveyed Tahoe Draba habitat with two LTBMU employees (Lori Doyle and Dave Allessio) and the Wildlife biologist from the Inyo National Forest.

3. Amount and/or types of projects/acres surveyed for sensitive plants

Portions of the Tahoe Rim Trail (in Nevada and California) were surveyed for sensitive plants. Specifically, 4 miles of trail in the Marlette Peak area were surveyed for Arabis rigidissima var. ramota, 5 acres in the Grass Lake area were surveyed for Silene invisa, and 10 acres were surveyed for Draba asterophora var. asterophora.

One quarter of an acre was surveyed for occurence of Silene invisa in Meiss Country near Meiss Lake.

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

Many agencies have begun to work together to develop a management guide for Tahoe Yellow Cress, Rorippa subumbellata. Three meetings were held with representatives from the CA State Lands Commission, CA State Parks and Recreation, Tahoe Regional Planning Agency, NV State Museum and NV Heritage Program, CA Heritage Program (CA Natural Diversity Data Base), the Nature Conservancy, CA Native Plants Society and the Forest Service-LTBMU. The large number of agencies involved is due to the multi-ownership of land where R. subumbellata occurs.

The State Lands Commission is presently trying to find someone to write an EIR, which would also be a management guide, for this plant. They would like the LTBMU to appoint someone from our staff to work on this. We are trying to arrange that at this time.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

Our Cost Share project involved our work with Draba asterophora var. asterophora and the Tahoe Rim Trail Association in the Freel Peak area. The LTBMU decided upon the measures necessary to protect the Tahoe Draba habitat and the Tahoe Rim Trail Association paid for construction of the signs to be placed in the Freel Peak area.

SIGN:

SENSITIVE PLANT AREA

PLEASE STAY ON THE TRAIL

THROUGHOUT THIS AREA GROWS TAHOE DRABA, A SMALL ALPINE PLANT.
IT GROWS ONLY IN A FEW AREAS IN THE LAKE TAHOE BASIN

TAHOE DRABA IS PARTICULARLY VULNERABLE TO SOIL MOVEMENT
SO OFF-TRAIL TRAVEL MAY DAMAGE THESE DELICATE PLANTS

For more information
call the Forest Service at 916/573-2600

LOGO National Forest Lands -- Lake Tahoe Basin

6. **$$ spent on TES plant program during FY 89 by various funding sources**

$5,000.

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

Arabis rigidissima var. ramota was found by Ann Pinzl, curator of Natural History at NV State Museum. She found the plant during a botanical survey for the Tahoe Rim Trail near Marlette Peak.

8. **Other Activities:**

Strengthening and Expanding Partnerships:

The production of the Rorippa subumbellata management guide will give the LTBMU an opportunity to develop its working relationships with the agencies listed above in Number 4.

Increasing Awareness in the Forest Service Workforce:

The coordination necessary for protection of the Draba asterophora var. asterophora habitat allowed us to improve understanding of sensitive plants with other departments on the Unit.

Our Administrative Services employees (approximately 20) were taken on a tour which included viewing two sensitive plant habitats--Rorippa subumbellata and Draba asterophora var. asterophora. Some of the tour participants had neither heard of nor seen any of our sensitive plants before the tour.

Also, we finished our Layperson's Guide to Sensitive Plants on the Lake Tahoe Basin Management Unit (begun by Joan Reynolds) to increase our workforces' awareness of sensitive plants. This guide is not intended for

public use, rather it is for field persons and other interested Forest Service personnel.

Monitoring:

In order to determine the effectiveness of mitigation efforts for Rorippa subumbellata, the LTBMU has been monitoring the 3 populations planted on national forest lands in 1987/1988. The populations are counted and vigor is determined three times a year, between May and October. The planted populations are showing varying degrees of success, from 50% survival rate to less than 10% survival.

Each population is surrounded by a log fence, however, we have had some problem with public disturbance of the orange flagged metal monitoring stakes, so we replaced the marking stakes with plastic markers which are less visible and are labeled as Forest Service property. Also, the plastic stakes remove the possibility of metal/rust leaching into the sand around individual plants.

LOS PADRES NF **********

1. **Did you hire a botanist or seasonal(s) in FY 89?**

   Hired 4 botanists on 30-days special need assignments.

2. **Did you use volunteers to do plant work in FY 89?**

   No.

3. **Amount and/or types of projects/acres surveyed for sensitive plants**

   The following are the projects completed:

   Attempted to set up a long-term monitoring program for the Forest's single population of Chorizanthe rectispina. After a considerable investment of time, it was determined that the species was incorrectly identified by a professor at Cal Poly. This occurrence will be recorded as erroneous.

   Followed up on a search for Pedicularis dudleyi in the Ventana Wilderness.

   Revisted sites on the Big Sur Coast where Delphinium hutchinsonae was located in 1977.

   Begun seed germination studies of Eriogonum butterworthianum and Arctostaphylos refugioensis.

   Collected considerable site-specific information on densities and associated vegetation for Chlorogalum purpureum var. reductum.

   The Santa Barbara Botanic Garden began a floristic survey of the Cuesta Ridge Botanical Area with a specific objective of searching for new sensitive plant populations.

   Publication of a 9-year study on Thermopsis macrophylla var. agnina.

   Checked for Caulanthus californicus at two sites where seed was sown on the Forest last year. The results were negative but we did not find plants at the parent population either.

   Fencing will begin of the Chlorogalum purpureum var. reductum habitat through donations of pipe from Shell Oil Co.

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

   No but the Thermopsis study goes a long way in that direction.

5. **Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)**

   The Forest is working with the Santa Barbara Botanic Garden through an MOU. They are providing services that will match the $10,000 Forest funds for the 2-year project.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

$15,000 from budget allocated dollars.

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

No new occurrences.

8. **Other Activities:**

The Los Padres NF is working much more closely with the Santa Barbara Botanic Garden to assist in botanical expertise.

MENDOCINO NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

- No.

2. Did you use volunteers to do plant work in FY 89?

Niall McCarten helped me relocate and stake the Lewisia stebbinsii plots from his 1988 Cost-Share study for permanent monitoring plots.

Dave Isle volunteered some off-duty time that benefited the Forest and the Sensitive Plant program.

Off-duty slide presentation to Kiwanis Club on April 11th focused on increasing their awareness and appreciation of the Forest botanical resources.

On April 28, 1989, led the Maxwell Elementary School Science class on a botany fieldtrip.

During a June 2nd volunteer examination of a vegetatively diverse chaparral transition zone, a CNDDB botanist, a private botanist, a U.C. graduate student and Dave Isle found a new population of the Indian Valley Brodiaea (Brodiaea coronaria ssp. rosea) in an area adjacent to the Forest. In late August fire burned 788 acres within a mile of the population site.

On the June 3rd CNPS fieldtrip that was led by Dave Isle in Frenzel Creek RNA, Rick York mapped a new population of the Western Flax (Hesperolinon drymarioides) and the condition of the Snow Mountain Buckwheat (Eriogonum nervulosum) and the Solanoa Milkweed (Asclepias solanoana) was noted.

3. Amount and/or types of projects/acres surveyed for sensitive plants

Covelo District personnel Mike Van Dame and Robin Petersen did reconnaissance work on approximately 440 acres of the proposed Doe and Hayden timber sales in the Anthony Peak and Blue Banks areas. No new sensitive plant populations were located.

Two barriers were constructed to prevent off-highway vehicles (OHV) from impacting localized sensitive plant populations of Lewisia stebbinsii.

An Adobe Lily (Fritillaria pluriflora) reconnaissance of approximately 20 acres adjacent to Stony Gorge Reservoir failed to reveal a historic population, but reconnaissance of approximately 40 acres adjacent to the southeast side of East Park Reservoir revealed a small new Adobe Lily population. (This property has since reverted back under the jurisdiction of the Bureau of Reclamation.)

Three fires on the Mendocino NF were surveyed for Sensitive Plant habitat during rehabilitation work: the Powderhouse, Letts and Valley Fires. Approximately 300 acres was evaluated for potentially suitable habitat.

Approximately 10 acres of the Lake Red Bluff area was surveyed for Sensitive Plants on April 20, 1989 by Molly Fuller, Anna Fiorella and Dave Isle.

Reconnaissance was made of approximately 100 acres of potential habitat in a proposed LP/FS land exchange.

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

No.

5. **Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)**

No.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

The Mendocino spent approximately $10,000 on sensitive plant management.

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY '89**

TAXON	NUMBER OF NEW OCCURRENCES DISCOVERED (or old occurrences rediscovered)
Antirrhinum subcordatum	2
Brodiaea coronaria var. rosea	1
Epilobium nivium	1
Fritillaria pluriflora	1
Hesperolinon drymarioides	1

8. **Other Activities:**

Follow-up monitoring of the 1987 Fouts Fire rehabilitation work and related rehab data-sharing or consultation with others (Plumas N.F., Louisiana Pacific Lumber Company and other F.S. and private individuals) requesting input for their revegetation or rehabilitation projects involved several mandays this year. (This is a very practical part of the Botany program where our failures and successes need to be shared.)

Public requests for species specific information or collection permits, and LMP botany input or responses involved more that a pay period of work this year.

One concern that has been shared with others involves the use of introduced grass seed during rehabilitation and its subsequent suppression of native vegetation.

During emergency rehabilitation work on the Powderhouse fire, annual grass reseeding plans were finalized before Sensitive Plant input was considered. A historic Dimorphic Snapdragon (Antirrhinum subcordatum) population site threatened by the plan was flagged out of the contract area just prior to aerial seed application in October 1988. During a follow-up reconnaissance and evaluation of rehabilitation seeding on April 17, 1989, eight Dimorphic Snapdragon plants were found in the unseeded, burned historic population site.

During December 1988, a new population of the Snow Mountain Willow Herb (Epilobium nivium) was discovered on a helispot during the emergency rehabilitation team reconnaissance of the Letts Fire. Grass reseeding on the entire fire was kept to a minimum in order to promote the growth of native vegetation and maintain vegetative diversity.

During the August 1989 Valley Fire emergency rehabilitation work, grass reseeding in areas with high erosion potential was restricted to the use of commercial barley seed with and without straw mulch. September rains produced over two inches of Barley growth in the seeded and mulched fireline drainages by October 2, 1989. There was no dramatic Barley growth on the portions of the seeded but unmulched streambanks that were observed from a distance on that date.

Forest Specialists are beginning to reduce their use of persistent, aggressive, introduced grasses during emergency fire rehabilitation work. They are also beginning to experiment with the commercially available native grasses on other projects (i.e. the Bald Mountain Airport seeding, fertilizer and erosion mat experiment with Meadow Barley, Creeping Red Fescue and high altitude Blue Wild Rye).

This kind of activity may not appear to be relevant to the current Sensitive Plant program, but I feel that proactive and preventative measures are needed now to help keep our Sensitive Plant list from growing in the future.

Forest botanical resources and Sensitive Plants were highlighted in the slide-talk presentation to the Mt. Lassen Chapter of CNPS on April 3, 1989.

On May 31, 1989 Dave Isle completed a Forest Sensitive Plant Training session emphasizing serpentine endemics. 25 people attended. Dr. Clark Blake, a USGS Geologist, gave a slide-talk on the origin, distribution and significance of serpentinite in our area. Niall McCarten, a UC Berkeley Graduate Student, presented a slide-talk on the physiology of serpentine-endemic Hesperolinon species. Stephanie Jones, Shasta-Trinity National Forest Wildlife Biologist and once-USGS employee, presented serpentinite mineral samples. Dave Isle completed the indoor training with slides of Forest Sensitive plants and then led a fieldtrip into Frenzel Creek RNA.

In an effort to further interest in the cultivation and use of native perennial grasses in roadside mixes, rehabilitation and type conversion projects Dave Isle met with the Plumas NF Botanist and Soil Scientist in December and then organized a fieldtrip to the Soil Conservation Service Plant Materials Center in Lockeford on January 30, 1989. A private commercial seed entrepreneur and native grass researcher/promoter, a PSW researcher, and interested FS employees from two forests attended. (Both researchers also gave presentations at the 1989 Sensitive Plant Workshop.)

This spring Dave Isle was able to collect some seed from two ranches adjacent to the Forest where either good management or nongrazing has resulted in harvestable quantities of native perennial grass seed. Propose to use Boy Scout or other volunteer help to collect more in 1990 for use in Forest projects, and plan to encourage more volunteer or cost-share interest in the collection, propagation and outplanting of native grasses and forbs on the Forest if funding is available.

MODOC NF **********

1. **Did you hire a botanist or seasonal(s) in FY 89?**

   Yes, for Ecosystem data collection. John Rivera was able to do two small sensitive plant surveys. These were paid for out of Ecosystem funds.

2. **Did you use volunteers to do plant work in FY 89?**

   Dean Taylor and Glenn Clifton provided a preliminary species list from their surveys of the Warner Mountains which has a number of interesting species.

3. **Amount and/or types of projects/acres surveyed for sensitive plants**

   District surveys for timber sale projects, assessment work on mining claims, etc. This work was done mostly by the District coordinators, who are in most cases the district wildlife biologist or the range conservationist.

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

   No. However, $5000 in timber recepits funds will be carried over into FY 90 to work on guide development.

5. **Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)**

   No.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

   Approximately 3250 dollars were spent directly on sensitive plant management.

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

   Antennaria flagellaris; 3 new occurrences
   Eryngium mathiasiae; 1 new occurrence
   Ivesia paniculata; 1 new occurrence

8. **Other Activities:**

   The Forest has a good network for disseminating information, and all the District Coordinators have the same information, and have been trained in identifying plants. There's a "cookbook" process to follow to document surveys etc. in project EAs.

PLUMAS NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

The Plumas hired 7 Temporary Professional Botanists and 2 Temporary Biological Technicians for the FY89 field season. The Temporary Professional Botanists were hired on 4 Districts to do sensitive plant surveys for timber sale and KV monitoring to assess the impacts of timber sale activities on sensitive plant species.

Mike Foster, Sensitive Plant Coordinator for the Beckwourth RD, was instrumental in getting timber support money to add to the KV monitoring funds available to hire a botanist to do the plant surveys and KV monitoring work. Beckwourth RD hired Larry Janeway, Biology graduate student at Chico State. Mike supervised Larry, providing excellent coordination and guidance to build a sound program for the district.

Oroville RD hired Randy Zebell, Biology graduate student at S.F. State and Barbara Castro and Robin Fallscheer, recent graduates with Masters in Biology from Chico State. Barbara and Robin job-shared one position, with each of them working at least two days a week with Randy and overlapping the third when all three worked together. Linnea Hanson supervised these three individuals which provided them with a little wider scope than the district level.

Milford RD hired Stacy Scott, Chico State graduate in Biology. Stacy was hired through the efforts of Glenn Seaberg, Sensitive Plant Coordinator for the Milford RD, by convincing the Milford RD to spend timber money to get sensitive plant surveys for timber sales completed by a botanist. Glenn supervised Stacy providing guidance in a new discipline for the district.

Quincy RD hired Jim Battagin, local resident and graduate in Natural Resources from UC Berkeley and Richard Dwerlkotte, Biology student at Humboldt State. Through the commitment of Kathy Andregg, one of the Sensitive Plant Coordinators for Quincy RD, timber support money was made available to get the timber sales surveyed for sensitive plants. Dave Johns supervised both Jim and Richard providing excellent coordination and building a well run district program.

Marcile Sigler and Sue McKinney were hired by the La Porte Rd to do both owl and sensitive plant work. Marcile is a recent graduate in Geology and Sue is a Business student from Cal State Bakersfield. Due to the demands of the spotted owl effort in FY89 they were only able to spend about 20% of their time on sensitive plant work. Ginelle O'Connor supervised Marcile and Sue working closely with them to give them a broad background in biology activities on the Plumas National Forest including sensitive plant species.

2. Did you use volunteers to do plant work in FY 89?

Three volunteers worked in botany on the Plumas NF during FY89. Toni Fauver continued her Flora of the Lakes Basin Recreation Area on the Beckwourth RD. Margorie McNarin has begun a Flora of the proposed Valley Creek Botanical Area on the La Porte RD and Jerry Foote has continued his

involvement in the Butterfly Valley Botanical Area assisting in the development of the nature trail on the Quincy RD.

3. **Amount and/or types of projects/acres surveyed for sensitive plants**

On the Plumas, each district is responsible for the initial surveying for sensitive plant species for their proposed projects. If sensitive plant species are located then the Forest Botanist is consulted for technical advise. By using P&M money as a funding source, the temporary Botanists were able to do surveys for sensitive plant species on many proposed projects on their districts. Also, KV monitoring to assess the impact of timber sale activities on sensitive plant species continued on each of the districts.

Listed below are the projects and acres of surveying and monitoring accomplished:

Beckwourth RD:
Projects Surveyed:

Mohawk Timber Sale	123 acres
Crocker Timber Sale	546 acres
Nobel Timber Sale	328 acres
Sulphur Timber Sale	313 acres
Miller Salvage Sale	--
TOTAL	1028 acres

KV Monitoring:
- Peoria Timber Sale-Lupinus dalesiae monitoring
- Jackson Timber Sale-Lupinus dalesiae monitoring
- Red Clover Timber Sale-Astragalus lentiformis monitoring

Greenville RD
Projects:

Round Valley Timber Sale	900 acres
Miasc. mining projects & special uses	50 acres
	950 acres

KV Monitoring:
- Dark Ravine Timber Sale-Cypripedium fasciculatum first year post logging
- Bullfrog Timber Sale-Penstemon personatus second year transplant
- Dutch Hill Timber Sale-Lupinus dalesiae transects and baseline established

La Porte RD
Projects:

Fields Ridge Timber Sale	50 acres
Willow Creek North and South Timber Sales	200 acres
Minerva Bar Timber Sale	75 acres
Fingerboard and Onion Valley Timber Sales	255 acres
4 mining Claims	20 acres
1 schoolhouse project	---
TOTAL	600 acres

KV Monitoring:
- Hartman Bar Timber Sale Penstemon personatus monitoring
- Blue Nose Timber Sale Silene invisa monitoring

Oroville RD
Projects:

Chy Co. Land Exchange	100 acres
Oro-Quincy Highway	525 acres
Arkansas Ravine Timber Sale	1,112 acres
TOTAL	1,737 acres

KV Monitoring:
Kellogg Timber Sale Penstemon personatus rereads and initial monitoring.
Cub Timber Sale Penstemon personatus rereads and initial monitoring.
Ohio Timber Sale Penstemon personatus rereads.
Hardquartz Timber Sale Penstemon personatus reread.
Triangle Timber Sale Fritillaria eastwoodiae monitoring preparation and coordination with sale administration.

Milford RD
Projects:
Chipmunk and Stone Insect Salvage Sales
Rack White fir Timber Sale
Johnson Hill Timber Sale
Meadow View Peak Timber Sale
Rack Cull Log Deck
Tossed Timber Sale
D'Toad Timber Sale
Suddenly Timber Sale
Wemple 100% Timber Sale
Galleppi Timber Sale
Bloomer Timber Sale
Ranch/Roadside Timber Sale
Peak Timber Sale
Opportunity (Dixie Valley) Timber Sale
Rack Fire Timber Sale
Eagle Fire Timber Sale
Rogers Site Prep
Clarks Site Prep
Fire Suppression Camp at Meadow View "Y"
The approximate number of acres surveyed (field checked) were 5,000.
KV Monitoring:
Sugarloaf Timber Sale exclosure built for Ivesia aperta

Quincy RD
Projects:

Elizabethtown Timber Sale	226 acres
Sockum timber Sale	683 acres
Stanley Thin Timber Sale	95 acres
Grizzly Timber Sale	521 acres
McFarland Thin Timber Sale	340 acres
Rush Hill Timber Sale	292 acres
Cherry Timber Sale	458 acres
Caribou Timber Sale	108 acres
TOTAL	2,723 acres

KV Monitoring:

Tussock Insect Salvage Sale Penstemon personatus monitoring
Big Creek Timber Sale Penstemon personatus rereads
Miller Fork Timber Sale Penstemon personatus rereads
McFarland Timber Sale Penstemon personatus rereads
Taylor Rock Timber Sale Penstemon personatus population check
Eagle Timber Sale Penstemon personatus new monitoring established.
Johnson Timber Sale Lupinus dalesiae new monitoring established.
Stanley Thin Timber Sale new monitoring established for Lupinus dalesiae.

Total number of acres surveyed: 11,088 acres

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

Currently developing a draft Interim Species Management Guide for Ivesia aperta with the Tahoe and Toiyabe NF.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

Two Challenge Cost-Share projects were completed with the Nature Conservancy. Diane Ikeda, Biology graduate from Chico State, completed a survey to determine the range and ecological requirements of Astragalus webberi. Jean Witzman, Biology graduate student at Chico State, completed a Botanical Investigation for Lupinus dalesiae to obtain information to write a species management guide. The Greenville RD provided summer housing for Diane & Jean to conduct the field work that was needed and the Oroville RD provided a vehicle. Without these two essentials this project would not have been the success it was.

A Challenge Cost-Share project was completed with the California Native Plant Society to reimburse housing, meals and mileage for volunteers in return for labor to build a spillway and repair a leak in the dam at the pond in the Butterfly Valley Botanical Area. Environmental License Plate Funds from the Dept. of Fish and Game were used for the cost of the materials for the project. Gail Weinzierl, Co-Op Forester on the Quincy District was the co-leader of the project with Linnea Hanson. A lot of details were completed to make this project a success that otherwise would not have happened because of Gail's efforts. Gordon Keller was the Technical Engineer for this project and without him this project would have never been completed. A Certificate of Appreciation was presented to Pam Kareofelas, Workday Coordinator for CNPS from Mary Coulombe, Plumas Forest Supervisor for the contribution the society gave to this project.

6. $$ spent on TES plant program during FY 89 by various funding sources

a). Salary and expenses for 1 GS-11 Full-time Botanist $40,710.00

b). Challenge Cost-Share Contributions:

With The Nature Conservancy:

Astragalus webberi survey	$ 2,000.00
Lupinus dalesiae Botanical Investigation	$ 3,000.00

Butterfly Dam Restoration Project

With California Native Plant Society	$ 2,000.00
DFG Environmental License Plate Funds	$ 1,500.00

c.) District expenses for personnel to conduct sensitive plant surveys and KV monitoring:

Beckwourth RD	Timber	$ 5,300.00
	KV	$ 800.00
Greenville RD	KV	$ 510.00
	Resources	$ 600.00
	Wildlife	$ 500.00
La Porte RD	District Funds-Trng	$ 1,650.00
	Timber	$ 1,400.00
	Wildlife	$ 3,700.00
	KV	$ 3,800.00
	Resources	$ 450.00
Oroville RD	Timber	$ 5,100.00
	KV	$ 5,300.00
Milford RD	Timber	$ 2252.64
	Silviculture	$ 1689.48
	KV	$ 844.74
	Range	$ 844.74
	KV labor and materials	$ 1,200.00
Quincy RD	Timber	$ 4,500.00
	KV	$ 6,000.00
	TOTAL	$95,651.60

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89

Plumas Sensitive and Special Interest Plant Species

SPECIES	OCCURRENCES
SENSITIVE:	
Arabis constancei	5
Astragalus lentiformis	13
Astragalus webberi	3
Fritillaria eastwoodiae	1
Ivesia aperta	6
Ivesia sericoleuca	3
Lupinus dalesiae	26
Penstemon personatus	8
Senecio eurycephalus var lewisrosei	2
Silene invisa	5
Vaccinium coccinium	13

SPECIAL INTEREST:

Cypripedium fasciculatum	10
Cypripedium montanum	2
Trifolium lemmonii	1

8. Other Activities:

Beckwourth RD Other Activities:

-Almost twice as much money in the TM Sensitive Plant budget for '90 compared to '89.
-Three tours given for groups; natural history, plant ID, folklore, etc.
-Provided native plant expertise to District on reveg projects including fire rehab. (Layman Fire agreed to use a mix of 2 native species: Agropyron smithii and Bromus marginatus for aerial seeding).
-Updated District Sensitive Plant atlas-provided adjacent districts with atlas materials.
Attended:
- -Plumas NF District Botanists orientation meeting
- -Monitoring Session sponsored by Plumas NF Botanist for Northern California Forests
- -Mud Lake RNA tour
- -Lakes Basin Recreation Area flora project tour

-Plant species lists for 2 compartments.
-39 specimens prepared for the S.O. Herbarium (not previously represented).
-ca. 50 specimens added to district herbarium.
-2 new species added to the Plumas County list: Antennaria geyeri and Carex sheldonii.
-Provided botanical assistance to the Agricultural Research Station on their Big Grizzly Creek/Soil Nutrient Movement Study.

Oroville RD Other Activities:

-Conducted literature search and distribution of ecological and background information on Sensitive Plant Species to District Temporary Botanists.
-Data Base organization including assignment of population numbers and mapping of sensitive plant populations found in 1988 season.
-Attended:
- Plumas National Forest Botanist Orientation Meeting
- AAAS Vernal Pool Symposium
- Lakes Basin Flora trip
- Region 5 Monitoring Field Review
- Updating species list at Mud Lake RNA

Milford RD Other Activities:

-Participated in field trips with Lassen NF Botanist and BLM Botanist to increase sensitive and TES species knowledge.
-Participated in resource events such as Lassen NF Harvey Valley Monitoring Workshop and the Plumas NF "Range Ride" to facilitate sensitive plant program visibility and also to learn the "Range Management perspective" and how it effects our program.
-Developed District Atlas

Quincy RD Other Activities:

-Developed District Atlas
-Lead tours to spots of botanical interest
-Attended:
Plumas National Forest Botanist Orientation Meeting
Lakes Basin Flora trip
Region 5 Monitoring Field Review
Helped in updating species list at Mud Lake RNA

Let's Get Wild Implementation by Forest Botanist:

a. Increase Program Visibility:
Presented annual update of the current status of the Plumas Sensitive Plant Program for the Plumas Forest Management Team.
-Conducted training sessions on Beckwourth, LaPorte, Milford and Quincy for field personnel.
-Conducted training session for Temp. Botanists, Bio Techs, Volunteers and Cost Share Botanists.
-Participated in Nontraditional Careers for Women Career Day at Butte College for Northern California high school girls.
-Talks given on Plumas Sensitive Plant Program- High 12 Club, CNPS Mt. Lassen Chapter-monthly meeting and Wildflower Show, Elwell Lodge, UOP Alumni Family Camp.
-Developed Plumas Sensitive Plant Program T-shirts with Judy Wheeler, K-2 Teacher at Feather Falls School.

b. Strengthen and Expand Partnerships:
Intraforest:
-Conducted Forest Sensitive Plant Program Meeting with District Sensitive Plant Coordinators.
-Field trip with Botany personnel on the Plumas to Lakes Basin Area to review draft flora with Toni Fauver.
-Developed preliminary checklist of the Mud Lake Research NAtural Area with Plumas Botany program personnel.
Interforest:
-Presented talk on Developing Species Management Guides for the first R6 Sensitive Plant Workshop, Medford, OR.
-Conducted field trips with Beth Corbin, new Botanist for the Lassen NF and Kathy Van Zuuk, new Botanist for the Tahoe NF, to show them, individually, the sensitive plant species we share in common.
-Hosted R5 Field Review of Monitoring of Plumas Sensitive Plant Species. Representatives from 8 California National Forests and 1 BLM district attended.
-Field assistance trip with Jim Shevock, R5 Botanist, to review work that has been done on Penstemon personatus.
-Attended WO Biologists Shortcourse at Virginia Tech on Leadership and Communication.
Other agencies, conservation groups and industry:
-Co-leader of the R5 Sensitive Plant Program Workshop in which we invited other federal, state, industry and conservation organization individuals involved in rare plants.
-Conducted Sedum albomarginatum transplant monitoring with Caltrans Botanist and Environmental Specialist.

-Preliminary talks have been conducted with the California Native Plant Society Mt. Lassen Chapter and the Paradise Irrigation District to conserve the McNab Cypress near Magalia on National Forest and Paradise Irrigation District lands..
-Attended meetings with Mendocino N.F., Soil Conservation Service, Plumas N.F., Pacific Southwest Experiment Station and nursery industry personnel concerning the use of native grass seed in standard mixes and rehab. work.
-Met with Beth Corbin, Lassen NF Botanist, and Joe Molter, BLM specialist assigned rare plant responsibilitiys, to discuss Penstemon personatus a species found on land of these three owners.
-Field trip to Fowler Lake with Lowell Ahart and Vern Oswald, local Botanists in CNPS Mt. Lassen Chapter, to put together preliminary checklist of the bog species.
-Field trip to Willow Lake, Lassen NF, to see Scheuzeria palustris var. americana with Lassen, Plumas and BLM personnel. This species was only known in California from Big Meadow before it became Lake Almanor. Potential habitat exists on the Plumas for this species.
-Attended American Association for the Advancement of Science Vernal Pool Symposium, Chico, CA.

c. Maintain a Highly Trained Workforce:
By hiring temporary botanists, bio techs, cost share botanists and having volunteers a highly trained workforce was present on the Plumas for the Botany program for the first time. The question is now maintaining a trained workforce in the future with only the ability to hire temporaries. A permanent assistant Botanist for the forest has been identified in Workforce Management but is dependent upon funding.

d. Plan and Implement Strong Budgets:
For the past two seasons, temporary Botanists were hired to conduct KV monitoring since that was the only source of funding. By using both timber support money to conduct sensitive plant surveys and KV money to assess the impact of timber sale activities on sensitive plant species a more rounded program is being developed. Until this season, Plumas field personnel have been conducting timber sale surveys for sensitive plants. With the commitment of the various districts that used timber money to hire temporary botanists this season, sensitive plant surveys could be conducted by a trained botanist which yielded a higher caliber product.

e. Assisting in Forest PLans and/or Appeal Resolutions:
-In December, the Forest Botanist was on detail to the RO to help write a responsive statement to CNPS for the Sequoia Land Management Plan. From that work Linnea assisted in writing the response to CNPS for the Plumas Land Management Plan.
-Developed Biological Evaluation Report to summarize the biological evaluation work completed for sensitive plant species for timber sale EA's on the forest.

9. OTHER: Did you use Forest personnel in the sensitive plant program?

On the Plumas, each District Ranger assigns a Sensitive Plant Coordinator to coordinate all district botanical needs and serve as the primary link between the district and the Forest Botanist. The coordinators have provided needed support for the program on their districts spending between 5-30% of their time depending on the district, time of year and the demands of the program. These individuals need to also be recognized for their effort in making the sensitive plant program a success on the Plumas. The distict sensitive plant coordinators are:
Beckwourth RD-Mike Foster, Range Technician
Greenville RD-Gary Rotta-Wildlife Biologist
La Porte RD-Art Rohrbacher and Ginelle O'Connor, Wildlife Biologists
Oroville RD-Kevin McCormick, Archaeologist
Milford RD-Glenn Seaberg, Range Conservationist
Quincy RD-Kathy Andregg, Prep and Planning Forester and Dave Johns, Marking Crew Foreman.

SAN BERNARDINO NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

The SBNF hired 2 permanent full time botanists to work out of the Supervisor's Office. Melody Lardner was hired through the delegated examining authority in January 1989 as a GS-9 botanist to replace Pam Brown who was promoted to the Sequoia NF as a zone range conservationist. Maile Neel (a GS-7 temporary botanist) was hired into a permanent full time GS-7/9 position. While Maile works for the Supervisor's Office, she is stationed on the Big Bear Ranger District which contains the majority of the sensitive plants on the San Bernardino NF.

2. Did you use volunteers to do plant work in FY 89?

Volunteers were used intermittently for plant surveys and monitoring in the Big Bear Basin.

3. Amount and/or types of projects/acres surveyed for sensitive plants

Plant surveys were conducted for a variety of projects including:

Timber Sales
Special Use Events (Mountain Bike Events, Trials Events, Sheriffs' Retreat, Mountain Men Rendezvous)
Campground Developments
Ski areas
Utility lines
Mining
Land Exchanges
Prescribed Burns
Water Developments
Trail Reroute
Organizational Camp Developments
OHV Routes

Approximately 90 projects were surveyed in FY 89 on the SBNF, covering approximately 4000 acres.

The SBNF, particularly the Big Bear Ranger District, has one of the highest concentrations of rare plants of any National Forest in California. It is essential that fairly detalied surveys be conducted on almost every project occurring on the Forest. Most of our time between May and August is spent conducting project surveys.

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

A preliminary draft habitat management guide has been developed for the Pebble Plain Habitat, which incorporates seven sensitive species: Arenaria ursina, Eriogonum kennedyi ssp. austromontanum, Arabis parishii, Echinocereus engelmannii ssp. munzii, Mimulus purpureus, Mimulus exiguus and Castilleja cinerea. The species guide will be completed by December 31, 1989.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

Two new cost-share sensitive plant projects were set up with The Nature Conservancy in FY 89:

1) A Biological Investigation of Senecio bernardinus - This study will provide range-wide information on the distribtution and habitat requirements of this sensitive species. This information will be used to develop a species management guide. FS contribution - $2750. TNC contribution - $1750.

2) Pebble Plain and Wet Meadow Monitoring - This project continues monitoring of pebble plain and wet meadow habitat and the development of a species management guide for the pebble plain habitat. FS contribution - $5000. TNC contribution - $3710.

Two cost-share projects with The Nature Conservancy and California Department of Fish & Game were completed in FY 89 (begun in FY 88):

1) A Study of Four Plants Endemic to Limestone Soils in the San Bernardino Mountains - This project provided range-wide information on distribution and habitat of four sensitive species (three federal candidate species). This information will be used in the development of a habitat management guide for the limestone endemics. FS contribution - $4000. TNC contribution - $3000. CDFG contribution - $2000.

2) Rare Plant Monitoring for the Big Bear Basin - This project entailed the development and implemenatation of a monitoring plan for pebble plain, wet meadow and vernal annual stream habitats and species. FS contribution - $3000. TNC contribution - $3000. CDFG contribution - $1000.

6. $$ spent on TES plant program during FY 89 by various funding sources

Forest Service P&M funds	$43,000
Forest Service Timber Receipts	$5,000
Calif. Dept. of Fish & Game (CELP)	$5,000
The Nature Conservancy contribution	$5,460
Total:	$58,460

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89

In FY 89 the SBNF located 27 new sensitive plant population occurrences for 10 sensitive species.

Species	Number of New Occurrences
Astragalus albens	10
Castilleja cinerea	1
Caulanthus simulans	1
Echinocereus engelmannii var. munzii	1
Erigeron parishii	5
Eriogonum ovalifolium ssp. vineum	4
Horkelia wilderae	1
Orthocarpus lasiorhynchus	1
Phlox dolicantha	1
Streptanthus bernardinus	2

8. Other Activities:

- Established a Memorandum of Understanding with The Nature Conservancy to work towards common interests and goals on the Forest, with emphasis on the North Baldwin Lake and Holcomb Valley Special Interest Area.

- Completed grazing exclosures in sensitive plant habitat in Garner Valley. These exclosures will be monitored to document the effect of grazing vs. removal of grazing on Penstemon californicus, Echinocereus engelmannii var. munzii, Layia ziegleri and Arabis johnstonii.

- Presented numerous talks to internal and external groups on the sensitive plant program. Audiences included University classes, Garden Clubs, the National Association of Interpreters, Forest Service Personnel and partners at a Recreation Strategy Session, and general forest visitors at evening programs.

- Published an article in the Southern California Botanists journal Crossossoma on the cooperation between many groups that facilitated protection of significant acreage of pebble plain habitat.

- Cooperated with California Department of Fish & Game and The Nature Conservancy on the North Baldwin Lake Ecological Reserve.

- Began working with the California Department of Fish and Game and The Nature Conservancy on a self-guided nature trail brochure at the North Baldwin Ecological Reserve and Special Interest Area.

- Began to develop a sensitive plant coloring book, and will continue in FY90. We are looking for matching funds to complete the drawings and print the book.

- Participated on 7 Interdisciplinary teams for NEPA documentation on the Forest this year.

- Coordinated a meeting of USFWS, BLM, FS and private consultants on Centrostegia leptoceras.

- Continued fencing and road closure program in the pebble plain habitat.

SEQUOIA NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

The Sequoia NF has been without a Forest Botanist since 1985, and relies on District Range, Wildlife and Timber personnel to accomplish sensitive plant work. Each District has one person that is responsible for sensitive plant managment, and this is a collateral duty in addition to an already full workload.

No additional personnel were hired in FY 89 to accomplish sensitive plant work.

2. Did you use volunteers to do plant work in FY 89?

No

3. Amount and/or types of projects/acres surveyed for sensitive plants?

Timber sales and other miscellaneous projects were reviewed for the presence or absence of sensitive plants with recommendations made by District sensitive plant coordinators on a project by project basis. Some field surveys were conducted in proposed project areas that were thought or known to contain potential habitat. Approximately 1000 acres were reviewed/surveyed for the presence or absence of sensitive plants.

In addition, a comprehensive survey of the 440 acre Bald Mountain Botanical Area was completed by a local botanist. This information will be incorporated into the Bald Mountain Botanical Area establishment report.

4. Did you develop an interim or complete a species managment guide as directed in the FY 89 budget direction?

No interim or species managment guides were completed on the Sequoia this year. Preliminary work was started on the Bald Mountain Botanical Area establishment report, and a meeting was held between the Greenhorn Ranger District and the California Native Plant Society to discuss the update of the Calochortus westoni species management guide.

5. Did you complete a cost-share sensitive plant project in FY 89?

No

6. $$ spent on TES plant program during FY 89 by various funding sources.

In total, District Sensitive Plant Coordinators spent approximately 35 days on sensitive plant work. This was financed as follows:

20 days financed with Range dollars:	$2600
10 days financed with Wildlife dollars:	$1300
5 days financed with Timber dollars:	$650
Bald Mountain Botanical Area contract survey: (Wildlife dollars)	$1400
Total Forest Expenditure on FY 89' Sensitive Plant Program:	$5950

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89.

None

8. Other activities

The Forest spent time in mediation with the California Native Plant Society (CNPS) working toward resolution of their Forest Plan appeal. Forest personnel met with Regional Botanist Jim Shevock and members of CNPS to disuss modification of some items, monitoring and to clarify issues.

SIERRA NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

The Sierra National Forest rehired Joanna Clines as a temporary botanist in January 1989. She is still on board on intermittent status while attending CSUF in pursuit of her M.A. in botany (a coop education position is pending). Her master's thesis research focuses on the reproductive ecology of Carpenteria californica, a Forest sensitive species that recently attained State threatened status. The information will be incorporated into the Carpenteria species management guide. She is very instrumental in the Forest's sensitive plant program. She collaborated in the literature description of a new subspecies of Eriogonum nudum, which has been added to the sensitive plant list.

2. Did you use volunteers to do plant work in FY 89?

No volunteers were used in FY 89.

3. Amount and/or types of projects/acres surveyed for sensitive plants

The Sierra NF conducted sensitive plant surveys and provided input to a variety of proposed projects and special uses such as:

Timber Sales	10
Wild & Scenic River EAs	2
Special Management Areas	1
Historic Site (Hite's Cove)	1
Grazing Allotment Inspection	1
Microwave Site	1

Joanna spent about 80% of her time on project-related field reconnaissance. Approximately 5,000 acres were surveyed on the Forest in FY 89. She also spent some field time checking and verifying existing sensitive plant populations for the following taxa: Clarkia lingulata, C. biloba ssp. australis, Collomia rawsoniana, Eriophyllum congdonii, Erythronium pluriflorum, Ivesia unguiculata, Lewisia congdonii, Raillardella muirii, and Trifolium bolanderi.

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

The species management guide for Clarkia lingulata is now complete and in the final stages of approval. Joanna is in the process of writing a species management guide for C. biloba australis. The implementation of these two species management guides involves initiation of an interagency memorandum of understanding with CalTrans, CDFG, PG&E, and Mariposa County.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

No.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

a)	Salary for one botanist and wildlife biologist		5,000
b)	Charge as worked:	Timber	9,000
		Lands	500
		Range	100
			14,600

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

Three new species were added to the Sierra NF sensitive plant list in FY 89:

1) Erythronium pluriflorum (found by Joanna Clines in FY 88) is a new species to be described by Jim Shevock, Jim Bartel, & Geraldine Allen. It is known from only six populations and is endemic to the Sierra NF.

2) Eriogonum nudum var. regirivum was described in the literature by James Reveal, John Stebbins, and Joanna Clines.

3) Eriogonum prattenianum var. avium was described in the literature by James Reveal and Jim Shevock

Joanna Clines found three new populations of Ivesia unguiculata. Joanna Clines and Jim Shevock verified a very healthy population of Raillardella muirii known from a 1975 herbarium label, and a southward range extension of Trautvetteria grandis.

8. **Other Activities:**

Joanna Clines spent considerable time in May and June gathering data on the reproductive ecology of Carpenteria californica. Her M.A. thesis at CSU Fresno is aimed at elucidating the role of sexual reproduction in this rare shrub. An opportunity to incorporate fire ecology into the study presented itself when the Powerhouse Fire burned a large portion of the existing Carpenteria!

Joanna coordinated a field trip with representatives from CDFG, CalTrans, and the Stanislaus NF to view the sensitive plants in the Merced River Canyon. The emphasis was on Clarkia lingulata and C. biloba australis, and the trip was a good preliminary meeting preparative to establishing an interagency MOU in FY 90.

In keeping with "Let's Get Wild", the Sierra is producing sensitive plant program T-shirts (unabashedly copying the format used by the Plumas). We'll have our locally famous Carpenteria on the front, and "Let's Get Wild" on the back.

John Lorenzana provided plant ecology input for the Powerhouse Fire. John and Joanna provided plant ecology input as members of the rehab team for the Balch Fire. This was an excellent opportunity for interdisciplinary cross-training for Joanna.

Joanna met informally in the field with Dan Cheatham of the UC Natural Reserve System and Liz Neese of the UC Berkeley Herbarium to assess the effects of the Powerhouse Fire on Carpenteria californica in the Backbone Creek Research Natural Area.

John Lorenzana and John Stebbins of CSUF presented the second annual Regional Range Plant Identification workshop hosted by the Sierra NF. The session was structured as a refresher course for those who had been away from plant identification for some time, and also as an introductory course for those participants with little range background, but who are responsible for Forest or District range programs. The session was very successful again and we plan another one for FY 90.

John and Joanna attended the Sensitive Plant workshop in Sacramento, and Joanna attended the Sensitive Plant Field Monitoring Review held on the Plumas in July. Both sessions were extremely helpful for fostering new ideas and communicating with other sensitive plant people.

SHASTA-TRINITY NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

Yes. After Barbara Williams left in October 88 for the Klamath, Maria Ulloa-Cruz served as S.O. botanist for several months in the spring. The Shasta-Trinity hired a full-time series 430 GS-11 botanist, Julie Kierstead, in June, to work out of the S.O. The Forest Botanist will supervise forest-wide botany program development for seven districts and 36 Sensitive plants.

2. Did you use volunteers to do plant work in FY 89?

Yes. Dr. Max Tenscher conducted a survey of Eriogonum alpinum, a state-listed Threatened species, on Mumbo Peak in the Mt. Shasta District.

3. Amount and/or types of projects/acres surveyed for sensitive plants

Approximately 15,000 acres were surveyed for these types of projects: timber sales, road rights-of-way, range improvement projects, communications sites, meadow maintenance projects, rock pits, and a wilderness EIS. In addition several wildlife biologists surveying spotted owl habitat areas looked for sensitive plants.

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

No. The Forest was without a botanist for much of the fiscal year. However, steps were taken on the Mt. Shasta District toward development of interim guides for Penstemon filiformis and Phacelia dalesiana.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

No.

6. $$ spent on TES plant program during FY 89 by various funding sources

$16,000; all from Fish & Wildlife funds.

7. Name of sensitive plant(s) and number of new occurrences discovered in FY 89

Campanula shetleri	3
Campanula wilkinsiana	2
Epilobium siskiyouense	1
Eriogonum alpinum	1
Raillardella pringlei	1
Sedum laxum ssp. flavidum	2

8. **Other Activities:**

This year's monitoring of our FY88 CELP habitat enhancement project for Phacelia cookei by Mt. Shasta District wildlife biologist Francis Mangels showed the species to be expanding into openings created by tractor clearing of chaparral in its limited geographical range. This was the hoped-for result.

Updated Sensitive Plant field guides, featuring color photos, range and habitat information, were produced for all the districts by temporary S.O. botanist Maria Ulloa-Cruz.

District Sensitive Plant coordinators and Forest Botanists provided botanical training to Wilderness rangers for the Trinity Alps, Mt. Shasta, and Castle Crags wildernessses; to district road engineers, sale marking crews, and silviculturists. Stephanie Jones, Big Bar R.D. wildlife biologist and sensitive plant coordinator, assisted with a botanical training program for Mendocino N.F. and found a new population of Fritillaria pluriflora on the Mendocino.

Forest Botanist Julie Kierstead worked with California Dept. of Forestry to strengthen exchange of botanical information on "checkerboard" Forest Service/private land ownership in the Shasta Lake area.

Duplicate collections of twenty species (some Sensitive, some not) were sent to Jepson Manual authors for identification and comment as part of an ongoing Shasta-Trinity plant species checklist project.

The Forest Botanists assisted with the Forest LMP, drafting a Sensitive Plant synopsis for each management area in the Plan plus a chart of the 36 Sensitive plants on the Forest, their ranges and habitats.

SIX RIVERS NF **********

1. Did you hire a botanist or seasonal(s) in FY 89?

Yes, 2 seasonals were hired to work on timber sales and sensitive plant inventories.

2. Did you use volunteers to do plant work in FY 89?

Yes, 2 volunteers were used. One female foreign exchange student from Italy assisted in timber sale inspections and seral stage vegetation sampling. One black male assisted in Sensitive Plant inventories.

3. Amount and/or types of projects/acres surveyed for sensitive plants

a. Survey conducted on ultramafic substrates in three compartments of the Orleans Ranger District in conjunction with the Integrated Forest Inventory project. Sensitive and rare plants locations and potential habitat were mapped on 15,000 acres.

b. Timber sale related surveys included the following:
Lower Trinity RD-3 timber sales, 3 salvage sales
Mad River RD-4 timber sale, 7 salvage sales
Gasquet-2 timber sale, 2 salvage sales
Orleans-6 timber sales, 1 salvage sale

c. Survey conducted in serpentine area planned for wildlife improvement activities.

d. Survey of area planned for mineral withdrawal and land exchange.

4. Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?

No, however we are cooperating with the Rogue River National Forest in the development of a species management guide for Bensoniella oregana, expected to be completed this fall.

5. Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)

Field work has been completed on a challenge cost-share project with the California Native Plant Society, on developing a data base of Sensitive Plant locations and unique serpentine communities in the proposed Lassics Botanical Area. This data base will be used to develop a management plan for the area. The plan will outline activities needed to ensure that sensitive plant populations are conserved and their habitat enhanced. This effort represents a model partnership between the Forest Service and an organization with the expertise necessary to design an ecologically sound management plan. Results of this project were presented by a CNPS representative at a National Natural Areas Conference held in Nashville, TN (October, 1989).

6. **$$ spent on TES plant program during FY 89 by various funding sources**

$35,000.00

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

New findings based upon comparison to forest data base and Natural Diversity Data Base

Sedum laxum ssp. flavidum--7 occurrences
Dicentra formosa ssp. oregana--6 occurrences
Minuartia decumbens--2 occurrences
Lupinus constancei--1 occurrence
Sanicula tracyi--2 occurrences

Watch List Species

Lilium bolanderi--7 occurrences
Lilium vollmeri--2 occurrences
Sedum laxum ssp. heckneri--2 occurrences
Gentiana affinis--2 occurrences
Minuartia howellii--1 occurrence
Antennaria suffrutescens--2 occurrences
Cypripedium californicum--1 occurrence

8. **Other Activities:**

a. Integrated the Ecosystem Classification program and Sensitive Plant programs, in an effort to develop a greater understanding of the synecology of Sensitive Plants. Preliminary results indicate this will be a successful way of gathering the information necessary to develop predictive models of sensitive plant habitat and mapping the acreage of potential habitat. Other benefits include: 1. identification of vegetative seral stage, 2. predictability in habitat manipulation, and 3. designation of potential areas for future surveys.

b. Completed (in draft) a handbook of Sensitive Plants for the Six Rivers National Forest. It includes a description of the species, its status, similar species, blooming period, habitat, distribution, notes, and references.

c. In an attempt to increase our sensitive plant program visibility, strengthen and expand our partnerships we have asked the North Coast Chapter, CNPS to provide input on a variety of projects. The objective of this effort is to seek project level assistance in matters dealing with sensitive plants and thereby head off potential conflicts before they occur.

STANISLAUS NF **********

1. **Did you hire a botanist or seasonal(s) in FY 89?**

The Stanislaus NF hired a temporary Biological Technician, Jennie Haas, a Biology graduate from CSU Stanislaus, for the FY 89 field season. Summit RD Wildlife Biologist Kathy Burnett also worked part-time in the sensitive plant program. Jennie spent most of her time working on the Stanislaus Complex Burn, monitoring existing sensitive plant populations and surveying reforestation areas in the Burn. She also took the information gathered on Erythronium tuolumnense and wrote a draft species management guide. Kathy Burnett did the field work in preparation for writing the ERTU management plan and provided technical supervision for Jennie.

2. **Did you use volunteers to do plant work in FY 89?**

The Stanislaus had one volunteer, a local community college botany instructor, signed up to survey for new populations of Carex paucifructus, Allium tribracteatum and Lomatium stebbinsii. Surveys remain to be completed.

3. **Amount and/or types of projects/acres surveyed for sensitive plants.**

All of the sensitive plant work done on the Stanislaus in FY 89 was done out of the Supervisor's Office. Projects accomplished in FY 89 are:

Summit R.D.:
Survey Shoofly Timber Sale 155 acres

Mi-Wok R.D.:
Survey 15 Erythronium tuolumnense populations
(2 new occurrences).

Groveland R.D.:
Survey reforestation units in the Stanislaus
Complex Burn. 4,150 acres (est.)

Establish monitoring plots for Clarkia australis
in Dry Goat Fire Salvage Sale.

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

The Stanislaus prepared a draft species management guide for Erythronium tuolumnense.

5. **Did you complete a cost-share plant project in FY 89? (provide specifics)**

No.

6. **$$ spent on TES plant program during FY 89 by various funding sources.**

a.	Salary GS-9 District Biologist botany support	$3,000
b.	Salvage Sale (SSSS) Funds (Stanislaus Complex Burn sensitive plant surveys)	5,135
c.	RMTR (TES Botany) - ERTU Management Guide	2,275
		$10,400

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89.**

Sensitive Species	Occurrences	District
Eriophyllum nubigenum	1	Groveland
Erythronium tuolumnense	2	Mi-Wok
Clarkia australis	30	Groveland
Lomatium stebbinsii	3 + range extension	Mi-Wok

8. **Other Activities:**

a. Coordination with CalTrans and Sierra National Forest, Clarkia lingulata and Clarkia biloba australis.

b. Update Forest sensitive plant atlas including population numbers to plants found in 1989.

c. Prepared an atlas of Clarkia australis population for Groveland R.D.

d. Strengthen and expand partnerships with other agencies, conservation groups and industry:

Kathy Burnett was co-founder of the newest CNPS Chapter - Sierra Foothills. This should provide future Coop/Cost-Share opportunities for the Stanislaus.

During Erythronium tuolumnense surveys, Kathy Burnett visited a population on Ross and Peg Carkeet's property. While there, she told Peg of the potential for finding Lomatium stebbinsii on their property. Peg did find a new population (a range extension also). While getting in touch with Lynn Lozier from The Nature Conservancy to protect the Erythronium population on their property, she also got in touch with neighboring landowner (Fibreboard) about Erythronium and Lomatium being on their property. It all led to a three-way TNC landowner protection agreement.

TAHOE NF********

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1. **Did you hire a botanist or seasonal(s) in FY 89?**

   The Tahoe hired one full-time botanist in the S.O., one coop botanist on the Sierraville district, and one seasonal botanist on the Downieville district.

2. **Did you use volunteers to do plant work in FY 89?**

   We actively recruited volunteers this year. Two people volunteered their time for approximately 80 hours of work.

3. **Amount and/or types of projects/acres surveyed for sensitive plants**

   Ski area expansion - 1,000 acres,
   Timber sales (green and salvage) - about 40,000 acres. This includes office and field surveys.
   Recreation projects (trail construction, etc.) - 100 acres,
   Mining projects - 5 acres,
   Special use permits - 500 acres
   Prescribed burning - 500 acres

4. **Did you develop an interim or complete a species management guide as directed in the FY 89 budget direction?**

   We have completed a draft interim management guide in cooperation with the Plumas and Toiyabe National Forests for Ivesia aperta.

5. **Did you complete a cost-share sensitive plant project in FY 89? (provide specifics)**

   No. However, we have begun setting up a cost-share program with the Nature Conservancy in cooperation with the Plumas and Toiyabe to complete an inventory for Ivesia webberi in FY '90.

6. **$$ spent on TES plant program during FY 89 by various funding sources**

   We spent about $40,000.00 on the TES program in '89 in the following funding areas:

   NFWF - $ 5,000.00
   NFRG - $ 5,000.00
   NFTM - $20,000.00
   CWKV - $10,000.00

7. **Name of sensitive plant(s) and number of new occurrences discovered in FY 89**

   Lewisia cantelowii - 1
   Phacelia stebbinsii - 3
   Silene invisa - 20+

8. Other Activities:

Over 75 people from districts and the supervisors office were trained in sensitive plant identification and the sensitive plant program. This included in-office and field training. The training helped to promote the sensitive plant program and increase the number of people looking for sensitive plants at the project level.

The Tahoe contracted an administrative study for Silene invisa as part of gaining additional information about the species to move to a final guide/delisting the species.

The Forest developed and implemented monitoring programs for Silene invisa.

Many days were spent in interdisciplinary meetings and environmental analysis review to represent plants and their needs and work with other resource programs.